

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
<b>49</b>	<b>56</b>	<b>Upper middle</b>	<b>NAWA</b>	<b>81.9</b>	<b>2,314.4</b>	<b>27,956.1</b>	<b>50</b>
				Score/Value	Rank		
<b>INSTITUTIONS.....</b>				<b>57.4</b>	<b>85</b>	<b>BUSINESS SOPHISTICATION..... 29.5 71</b>	
<b>1.1</b>	<b>Political environment.....</b>	<b>53.8</b>	<b>69</b>	<b>5.1</b>	<b>Knowledge workers.....</b>	<b>34.6</b>	<b>72</b>
1.1.1	Political and operational stability*.....	64.9	79	5.1.1	Knowledge-intensive employment, %.....	21.0	71
1.1.2	Government effectiveness*.....	48.2	67	5.1.2	Firms offering formal training, % firms.....	28.4	53
<b>1.2</b>	<b>Regulatory environment.....</b>	<b>54.1</b>	<b>102</b> ○	5.1.3	GERD performed by business, % GDP.....	0.5	37
1.2.1	Regulatory quality*.....	42.9	67	5.1.4	GERD financed by business, %.....	49.4	27
1.2.2	Rule of law*.....	39.8	76	5.1.5	Females employed w/advanced degrees, %.....	8.9	72
1.2.3	Cost of redundancy dismissal, salary weeks.....	29.8	115 ○	<b>5.2</b>	<b>Innovation linkages.....</b>	<b>18.5</b>	<b>97</b>
<b>1.3</b>	<b>Business environment.....</b>	<b>64.5</b>	<b>82</b>	5.2.1	University/industry research collaboration*.....	37.0	88
1.3.1	Ease of starting a business*.....	88.2	63	5.2.2	State of cluster development*.....	44.4	76
1.3.2	Ease of resolving insolvency*.....	40.7	96	5.2.3	GERD financed by abroad, %.....	3.5	68
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	95 ○
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.2	43
<b>HUMAN CAPITAL &amp; RESEARCH.....</b>				<b>36.3</b>	<b>46</b>	<b>5.3</b>	
<b>2.1</b>	<b>Education.....</b>	<b>44.0</b>	<b>73</b>	<b>5.3.1</b>	<b>Knowledge absorption.....</b>	<b>35.4</b>	<b>57</b>
2.1.1	Expenditure on education, % GDP.....	4.3	70	5.3.1	Intellectual property payments, % total trade.....	0.3	74
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..	11.5	90 ○	5.3.2	High-tech imports, % total trade.....	9.9	33
2.1.3	School life expectancy, years.....	17.7	14 ● ◆	5.3.3	ICT services imports, % total trade.....	0.2	124 ○ ◆
2.1.4	PISA scales in reading, maths, & science.....	424.8	49	5.3.4	FDI net inflows, % GDP.....	1.6	89 ○
2.1.5	Pupil-teacher ratio, secondary.....	18.5	81	5.3.5	Research talent, % in business enterprise.....	55.7	19 ◆
<b>2.2</b>	<b>Tertiary education.....</b>	<b>37.3</b>	<b>43</b>	<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS... 23.0 59</b>			
2.2.1	Tertiary enrolment, % gross.....	103.7	3 ● ◆	<b>6.1</b>	<b>Knowledge creation.....</b>	<b>22.2</b>	<b>38</b>
2.2.2	Graduates in science & engineering, %.....	20.2	65	6.1.1	Patents by origin/bn PPP\$ GDP.....	4.2	27
2.2.3	Tertiary inbound mobility, %.....	1.3	82	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.7	32 ◆
<b>2.3</b>	<b>Research &amp; development (R&amp;D).....</b>	<b>27.7</b>	<b>39</b> ◆	6.1.3	Utility models by origin/bn PPP\$ GDP.....	1.5	17
2.3.1	Researchers, FTE/mn pop.....	1,385.8	44	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	7.8	60
2.3.2	Gross expenditure on R&D, % GDP.....	1.0	37	6.1.5	Citable documents H-index.....	26.5	35 ◆
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....	48.5	31 ◆	<b>6.2</b>	<b>Knowledge impact.....</b>	<b>38.1</b>	<b>57</b>
2.3.4	QS university ranking, average score top 3*.....	24.8	44	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	1.7	46
				6.2.2	New businesses/th pop. 15-64.....	1.2	66
				6.2.3	Computer software spending, % GDP.....	0.5	20 ● ◆
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	2.8	80
				6.2.5	High- & medium-high-tech manufactures, %.....	0.3	44
<b>INFRASTRUCTURE.....</b>				<b>52.2</b>	<b>41</b> ◆	<b>6.3</b>	
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs).....</b>	<b>73.3</b>	<b>49</b>	<b>6.3</b>	<b>Knowledge diffusion.....</b>	<b>8.8</b>	<b>112</b> ○
3.1.1	ICT access*.....	65.1	69	6.3.1	Intellectual property receipts, % total trade.....	0.0	96 ○
3.1.2	ICT use*.....	53.3	68	6.3.2	High-tech net exports, % total trade.....	1.4	63
3.1.3	Government's online service*.....	88.9	27 ◆	6.3.3	ICT services exports, % total trade.....	0.1	122 ○
3.1.4	E-participation*.....	86.0	37	6.3.4	FDI net outflows, % GDP.....	0.4	73
<b>3.2</b>	<b>General infrastructure.....</b>	<b>43.0</b>	<b>38</b> ◆	<b>CREATIVE OUTPUTS.....34.2 40</b> ◆			
3.2.1	Electricity output, kWh/mn pop.....	3,761.1	54	<b>7.1</b>	<b>Intangible assets.....</b>	<b>55.1</b>	<b>20</b> ● ◆
3.2.2	Logistics performance*.....	50.6	46 ◆	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	98.5	13 ●
3.2.3	Gross capital formation, % GDP.....	30.7	20 ●	7.1.2	Industrial designs by origin/bn PPP\$ GDP.....	18.0	1 ● ◆
<b>3.3</b>	<b>Ecological sustainability.....</b>	<b>40.4</b>	<b>52</b>	7.1.3	ICTs & business model creation*.....	58.2	72
3.3.1	GDP/unit of energy use.....	13.3	19 ●	7.1.4	ICTs & organizational model creation*.....	44.2	98 ○
3.3.2	Environmental performance*.....	53.0	88	<b>7.2</b>	<b>Creative goods &amp; services.....</b>	<b>17.8</b>	<b>60</b>
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..	0.9	67	7.2.1	Cultural & creative services exports, % total trade.....	0.5	46
				7.2.2	National feature films/mn pop. 15-69.....	2.6	59
				7.2.3	Entertainment & Media market/th pop. 15-69.....	5.8	46
				7.2.4	Printing & other media, % manufacturing.....	0.9	71
				7.2.5	Creative goods exports, % total trade.....	2.9	21 ●
<b>MARKET SOPHISTICATION.....</b>				<b>50.8</b>	<b>52</b>	<b>7.3</b>	<b>Online creativity.....</b>
<b>4.1</b>	<b>Credit.....</b>	<b>36.0</b>	<b>66</b>	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	11.7	36 ◆
4.1.1	Ease of getting credit*.....	75.0	29	7.3.2	Country-code TLDs/th pop. 15-69.....	1.9	68
4.1.2	Domestic credit to private sector, % GDP.....	70.9	44	7.3.3	Wikipedia edits/mn pop. 15-69.....	4.4	85
4.1.3	Microfinance gross loans, % GDP.....	0.0	78 ○	7.3.4	Mobile app creation/bn PPP\$ GDP.....	19.0	23
<b>4.2</b>	<b>Investment.....</b>	<b>37.9</b>	<b>87</b>				
4.2.1	Ease of protecting minority investors*.....	71.7	24				
4.2.2	Market capitalization, % GDP.....	22.9	56 ○				
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	78 ○ ◆				
<b>4.3</b>	<b>Trade, competition, &amp; market scale.....</b>	<b>78.5</b>	<b>15</b> ● ◆				
4.3.1	Applied tariff rate, weighted avg., %.....	3.5	67				
4.3.2	Intensity of local competition*.....	80.5	6 ● ◆				
4.3.3	Domestic market scale, bn PPP\$.....	2,314.4	13 ● ◆				

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; \* an index; † a survey question. ○ indicates that the economy's data are older than the base year; see Appendix II for details, including the year of the data, at <http://globalinnovationindex.org>. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.